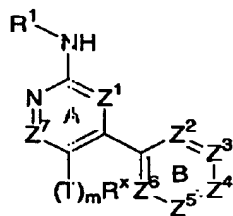


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AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims with the amended claims as follows:

1. (Currently amended) A compound of formula I:



I

or a pharmaceutically acceptable salt thereof,

wherein:

R¹ is Q-Ar¹,

wherein Q is a C₁₋₂ alkylidene chain wherein one methylene unit of Q is optionally replaced by O, NR, NRCO, NRCONR, NRCO₂, CO, CO₂, CONR, OC(O)NR, SO₂, SO₂NR, NRSO₂, NRSO₂NR, C(O)C(O), or C(O)CH₂C(O);

Ar¹ is a 5-7 membered saturated, partially unsaturated, or fully unsaturated monocyclic ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or an 8-12 membered saturated, partially unsaturated, or fully unsaturated bicyclic ring system having 0-5 heteroatoms independently selected from nitrogen, oxygen, or sulfur; wherein Ar¹ is optionally substituted with q independent occurrences of Z-R²; wherein q is 0-5, Z is a bond or is a C₁-C₆ alkylidene chain wherein up to two non-adjacent methylene units of Z are optionally and independently replaced by CO, CO₂, COCO, CONR, OCONR, NRNR, NRNRCO, NRCO, NRCO₂, NRCONR, SO, SO₂, NRSO₂, SO₂NR, NRSO₂NR, O, S, or NR; and each occurrence of R² is independently selected from R', halogen, NO₂, CN, OR', SR', N(R')₂, NR'COR', NR'CON(R')₂,

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$\text{NR}'\text{CO}_2\text{R}'$, COR' , $\text{CO}_2\text{R}'$, OCOR' , $\text{CON}(\text{R}')_2$, $\text{OCON}(\text{R}')_2$, SOR' , $\text{SO}_2\text{R}'$,
 $\text{SO}_2\text{N}(\text{R}')_2$, $\text{NR}'\text{SO}_2\text{R}'$, $\text{NR}'\text{SO}_2\text{N}(\text{R}')_2$, COCOR' , or $\text{COCH}_2\text{COR}'$;

each occurrence of R is independently hydrogen or an optionally substituted C_{1-6} aliphatic group; and each occurrence of R' is independently hydrogen or an optionally substituted C_{1-6} aliphatic group, a 3-8-membered saturated, partially unsaturated, or fully unsaturated monocyclic ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or an 8-12 membered saturated, partially unsaturated, or fully unsaturated bicyclic ring system having 0-5 heteroatoms independently selected from nitrogen, oxygen, or sulfur; or R and R' , two occurrences of R, or two occurrences of R' , are taken together with the atom(s) to which they are bound to form an optionally substituted 3-12 membered saturated, partially unsaturated, or fully unsaturated monocyclic or bicyclic ring having 0-4 heteroatoms independently selected from nitrogen, oxygen, or sulfur;

Z^1 is N or ~~CH~~;

Z^7 is N or ~~C(U)~~ R^Y ;

T and U are each independently a bond or a saturated or unsaturated C_{1-6} alkylidene chain, wherein up to two methylene units of the chain are optionally and independently replaced by CO, CO_2 , COCO, CONR, OCONR, NRNR, NRNRCO, NRCO, NR CO_2 , NRCONR, SO, SO_2 , NR SO_2 , SO_2NR , NR SO_2NR , O, S, or NR;

m and n are each independently 0 or 1;

R^X and R^Y are each independently selected from R or Ar^1 ;

Z^2 is N or CR^2 ; Z^3 is N or CR^3 ; Z^4 is N or CR^4 ; Z^5 is N or CR^5 ; and Z^6 is N or CR^6 , wherein each occurrence of R^2 , R^3 , R^4 , R^5 or R^6 is independently R^U or $(\text{V})_p\text{R}^V$, provided that a) no more than three of Z^2 , Z^3 , Z^4 , Z^5 or Z^6 is N, and b) at least one of Z^3 , Z^4 or Z^5 is CR^3 , CR^4 , or CR^5 , respectively, and at least one of R^3 , R^4 , or R^5 is R^U ,

each occurrence of R^U is NRCOR 7 , CONR(R^7), $\text{SO}_2\text{NR}(\text{R}^7)$, NR SO_2R^7 , NRCONR(R^7), NR $\text{SO}_2\text{NR}(\text{R}^7)$, or CONRNR(R^7), wherein R^7 is $(\text{CH}_2)_t\text{-Y-R}^8$, and t is 0, 1, or 2, Y is a bond or is O, S, NR 9 , $-\text{OCH}_2-$, $-\text{SCH}_2-$, $-\text{NR}^9\text{CH}_2-$, $\text{O}(\text{CH}_2)_2-$, -

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$S(CH_2)_2$, or $-NR^9(CH_2)_2$, and R^8 is Ar^2 , or R^8 and R^9 , taken together with the nitrogen atom, form an optionally substituted 5-8 membered heterocyclyl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen or sulfur;

each occurrence of V is a bond or a saturated or unsaturated C_{1-6} alkylidene chain, wherein up to two methylene units of the chain are optionally and independently replaced by CO, CO_2 , COCO, CONR, OCONR, NRNR, NRNRCO, NRCO, NR CO_2 , NRCONR, SO, SO_2 , NRSO $_2$, SO_2NR , NRSO $_2NR$, O, S, or NR;

each occurrence of p is 0 or 1;

each occurrence of R^V is R or Ar^2 ; and

Ar^2 is a 5-7 membered saturated, partially unsaturated, or fully unsaturated monocyclic ring having 0-3 heteroatoms independently selected from nitrogen, oxygen, or sulfur, or an 8-12 membered saturated, partially unsaturated, or fully unsaturated bicyclic ring system having 0-5 heteroatoms independently selected from nitrogen, oxygen, or sulfur; wherein Ar^2 is optionally substituted with r independent occurrences of $W-R^W$; wherein r is 0-3, W is a bond or is a C_1-C_6 alkylidene chain wherein up to two non-adjacent methylene units of W are optionally replaced by CO, CO_2 , COCO, CONR, OCONR, NRNR, NRNRCO, NRCO, NR CO_2 , NRCONR, SO, SO_2 , NRSO $_2$, SO_2NR , NRSO $_2NR$, O, S, or NR; and each occurrence of R^W is independently selected from R' , halogen, NO_2 , CN, OR', SR', $N(R')_2$, NR'COR', NR'CON(R') $_2$, NR'CO $_2R'$, COR', CO $_2R'$, OCOR', CON(R') $_2$, OCON(R') $_2$, SOR', SO $_2R'$, SO $_2N(R')_2$, NR'SO $_2R'$, NR'SO $_2N(R')_2$, COCOR', or COCH $_2$ COR';

provided that:

- a) when Z^1 is N, Z^7 is CH [[:]] and ring B is phenyl and at least one of R^3 or R^4 is NHCOR 7 , then R^1 is not phenyl only substituted with two or three occurrences of OR'; and

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b) when Z^1 is N , Z^7 is CH [[:]] and ring B is phenyl and at least one of R^3 or R^4 is $NHCOR^7$, SO_2R^7 , $CONRR^7$, then R^1 is not phenyl only substituted with one occurrence of $-CON(R')_2$ in the para position.

2-3. (Canceled)

4. (Original) The compound of claim 1, wherein R^1 is an optionally substituted phenyl, cyclohexyl, cyclopentyl, pyridyl, morpholino, piperazinyl, or piperidinyl group

5. (Original) The compound of claim 1, wherein R^1 is an optionally substituted from phenyl, cyclohexyl, or pyridyl group.

6. (Original) The compound of claim 1, wherein R^1 is optionally substituted phenyl.

7. (Original) The compound of claim 1, wherein q is 0, 1, 2, or 3 and each independent occurrence of ZR^Z is C_{1-4} alkyl, $N(R')_2$, OR' , SR' , $CON(R')_2$, $NR'COR'$, $NR'SO_2R'$, or $SO_2N(R')_2$.

8. (Original) The compound of claim 1, wherein q is 1 and ZR^Z is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-S(O)_2NH_2$.

9. (Original) The compound of claim 1, wherein q is 1, and ZR^Z is in the meta position and ZR^Z is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-S(O)_2NH_2$.

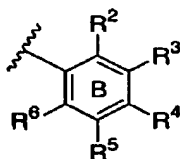
10. (Original) The compound of claim 1, wherein $(T)_mR^X$ and $(U)_nR^Y$ are hydrogen, halogen, NO_2 , CN , OR , SR or $N(R)_2$, or C_{1-4} aliphatic optionally substituted with oxo, OR , SR , $N(R)_2$, halogen, NO_2 or CN .

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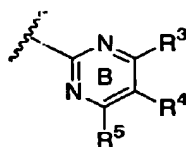
11. (Original) The compound of claim 1, wherein $(T)_mR^X$ and $(U)_nR^Y$ are each independently hydrogen, Me, OH, OMe or $N(R)_2$.

12. (Original) The compound of claim 1, wherein $(T)_mR^X$ and $(U)_nR^Y$ are each hydrogen.

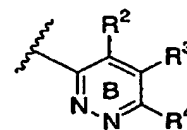
13. (Original) The compound of claim 1, wherein ring B is one of rings i-xiv:



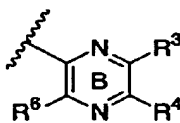
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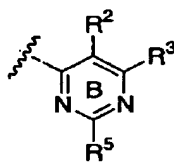
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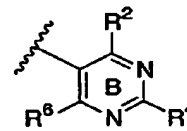
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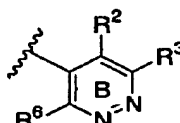
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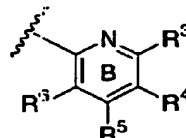
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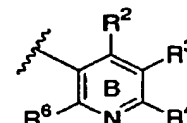
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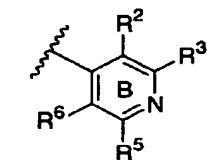
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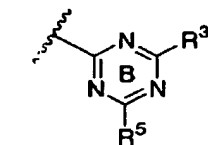
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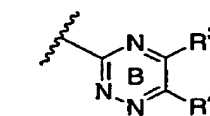
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x

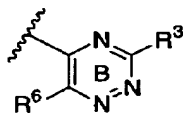


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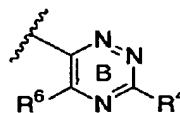


xii

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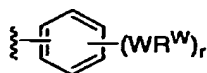


xiii

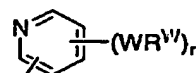


xiv

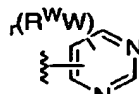
14. (Original) The compound of claim 1, wherein t is 0, Y is a bond, and R^8 is an optionally substituted aryl or heteroaryl moiety.
15. (Original) The compound of claim 1, wherein t is 0, Y is a bond, and R^8 is an optionally substituted heteroaryl moiety.
16. (Original) The compound of claim 1, wherein R^7 is $-\text{CH}_2-\text{Y}-\text{R}^8$, and Y is NR^9 , O or S , and R^8 is an optionally substituted aryl or heteroaryl moiety.
17. (Original) The compound of claim 1, wherein R^7 is $-\text{CH}_2-\text{Y}-\text{R}^8$, and Y is NR^9 , O or S , and R^8 is an optionally substituted aryl moiety.
18. (Original) The compound of claim 1, wherein t is 0 or 1, Y is NR^9 , and R^8 and R^9 , taken together with the nitrogen atom, form a 5-8 membered heterocyclyl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen or sulfur.
19. (Original) The compound of claim 1, wherein R^8 is a 5- or 6-membered aryl or heteroaryl group having one of the formulae:



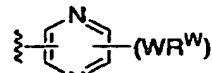
a



b

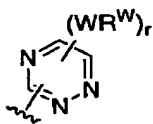


c

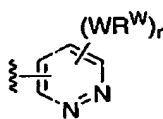


d

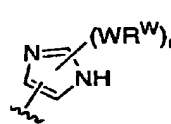
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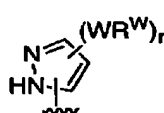
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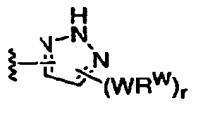
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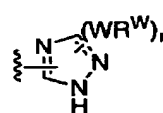
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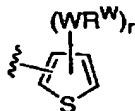
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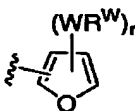
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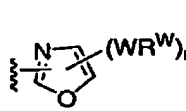
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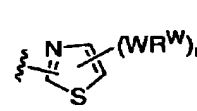
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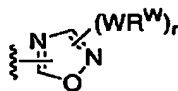
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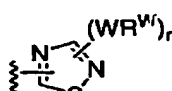
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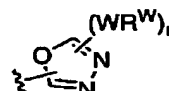
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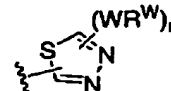
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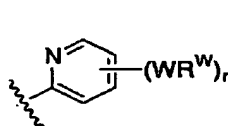


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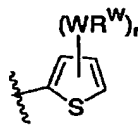


r

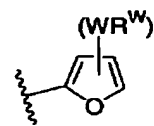
20. (Original) The compound of claim 1, wherein R^8 is a 5- or 6-membered heteroaryl group having one of the formulae:



b-i

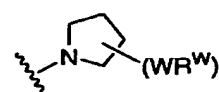
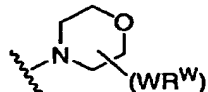
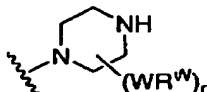
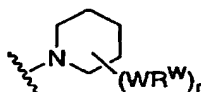


k-i



l-i

21. (Original) The compound of claim 1, wherein R^8 and R^9 , taken together, form a group having one of the formulae:

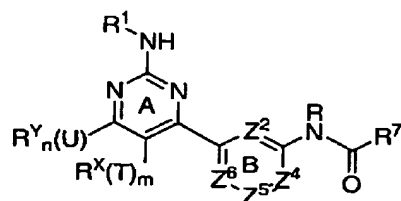


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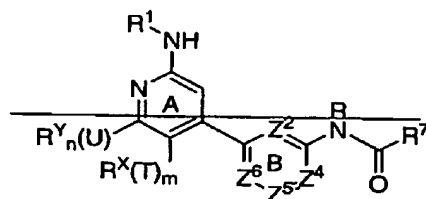
s t u v

22. (Original) The compound of claim 1, wherein r is 0 or 1.
23. (Original) The compound of claim 19, 20, or 21, wherein r is 1, 2, or 3, and each occurrence of halogen, C₁₋₄alkyl, -(R)₂, -OR, -SR, -SO₂N(R)₂, -N(R)SO₂R, -N(R)COR, -N(R)₂, -CH₂OR, -CH₂N(R)₂, or -CH₂SR.
24. (Original) The compound of claim 19, 20, or 21, wherein t is 0, Y is a bond, and R⁸ is an optionally substituted heteroaryl moiety selected from one of groups b through r.
25. (Original) The compound of claim 24, wherein R⁸ is an optionally substituted heteroaryl group b-i, k-i, or l-i.
26. (Original) The compound of claim 1, wherein t is 1, Y is O, S or NR⁹, and R⁸ is optionally substituted phenyl.
27. (Original) The compound of claim 1, wherein t is 0 or 1, Y is NR⁹, and R⁸ and R⁹, taken together form an optionally substituted group selected from s, u or v.
28. (Currently amended) The compound of claim 1, wherein Z³ or Z⁵ is CR³ or CR⁵, respectively, and R³ or R⁵ is NRC(O)R⁷, wherein R⁷ is (CH₂)_t-Y-R⁸, wherein t is 0, 1 or 2, wherein Y is a bond or is O, S, NR⁹, -OCH₂-, -SCH₂-, -NR⁹CH₂-, O(CH₂)₂-, -S(CH₂)₂-, or -NR⁹(CH₂)₂-, and wherein R⁸ is Ar², or R⁸ and R⁹, taken together with the nitrogen atom, form a 5-8 membered heterocyclyl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen or sulfur, and compounds have the formula **II-A** or **III-A**:

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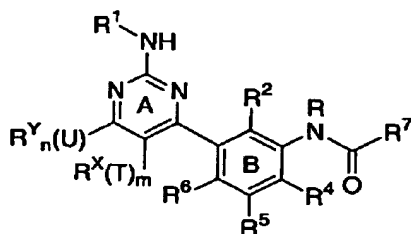


II-A

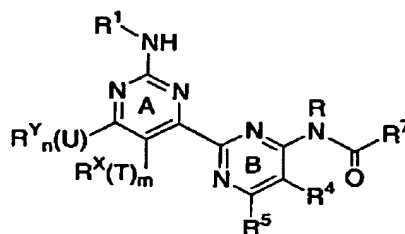


III-A

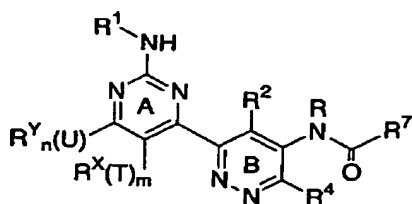
29. (Currently amended) The compound of claim 28, wherein for compounds of formula II-A ring B is selected from i, ii, iii, iv, v, vii, viii, ix, x, xi, xii, or xiii and compounds have one of formulas II-A-i, II-A-ii, II-A-iii, II-A-iv, II-A-v, II-A-vii, II-A-viii, II-A-ix, II-A-x, II-A-xi, II-A-xii, or II-A-xiii:



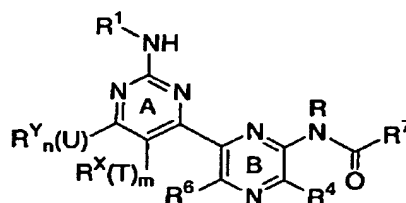
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II-A-ii

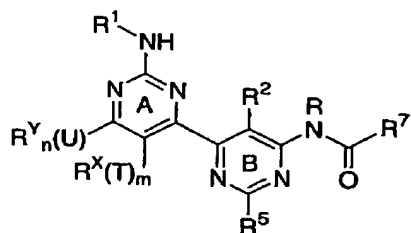


II-A-iii

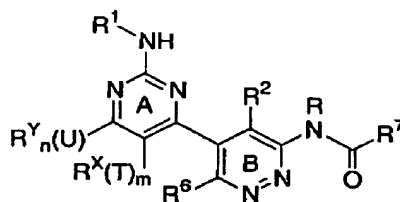


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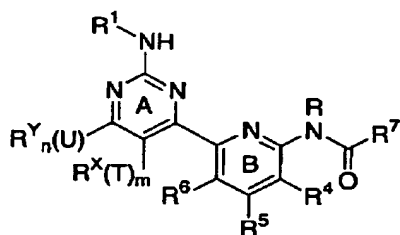
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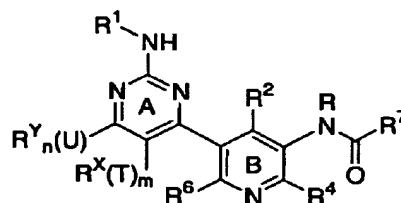
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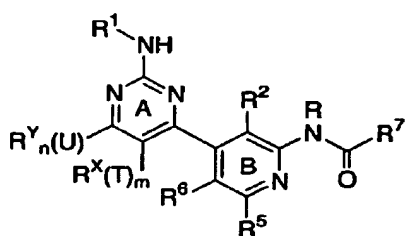
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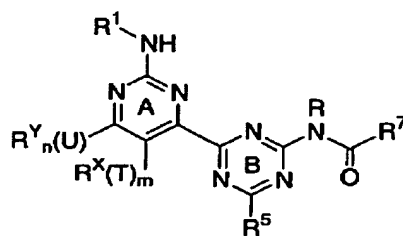
II-A-viii



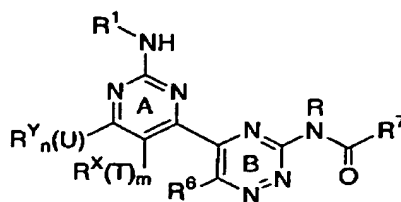
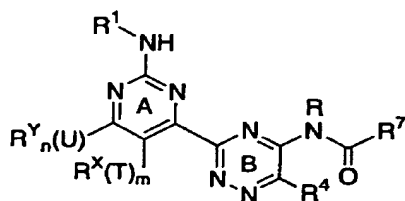
II-A-ix



II-A-x



II-A-xi



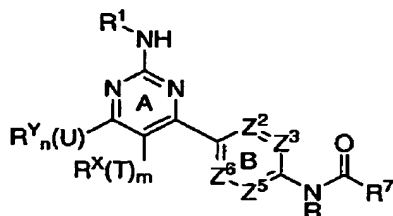
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II-A-xii

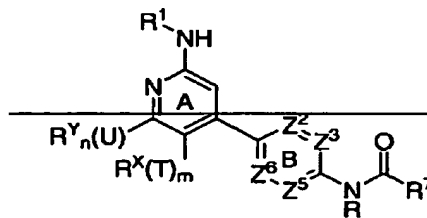
II-A-xiii

30. (Canceled)

31. (Currently amended) The compound of claim 1, wherein Z^4 is CR^4 , and R^4 is $NRC(O)R^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, wherein t is 0, 1 or 2, wherein Y is a bond or is O, S, NR^9 , $-OCH_2-$, $-SCH_2-$, $-NR^9CH_2-$, $O(CH_2)_2-$, $-S(CH_2)_2-$, or $-NR^9(CH_2)_2-$, and wherein R^8 is Ar^2 , or R^8 and R^9 , taken together with the nitrogen atom, form a 5-8 membered heterocyclyl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen or sulfur, and compounds have formula one of formulas II-B or III-B:



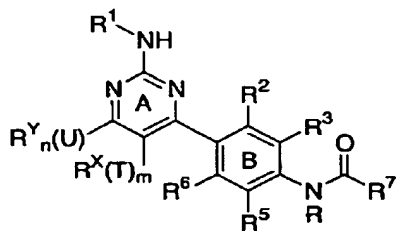
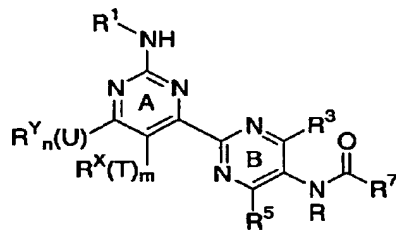
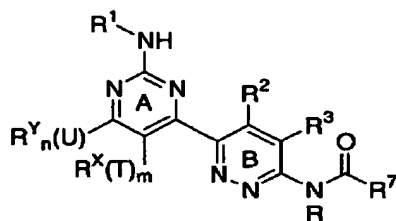
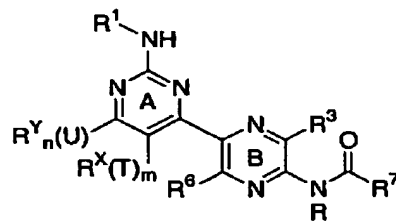
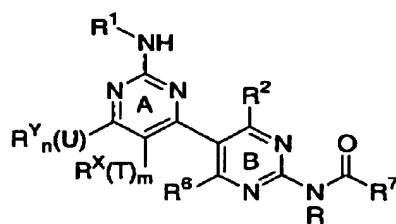
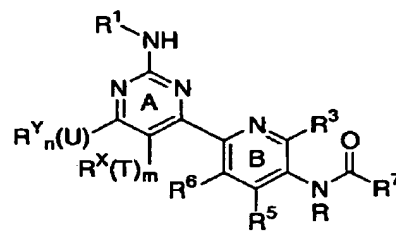
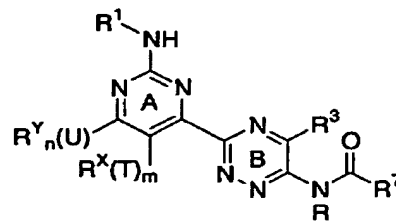
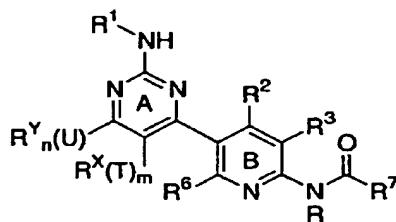
II-B



III-B

32. (Currently amended) The compound of claim 31, wherein ~~for compounds of formula II-B~~, ring B is selected from i, ii, iii, iv, vi, viii, ix, xii, or xiv and compounds have one of formulas II-B-i, II-B-ii, II-B-iii, II-B-iv, II-B-vi, II-B-viii, II-B-ix, II-B-xii, or II-B-xiv:

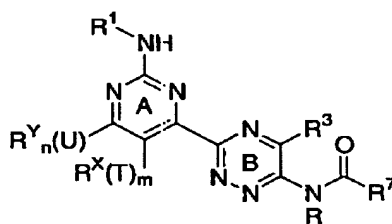
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**II-B-i****II-B-ii****II-B-iii****II-B-iv****II-B-vi****II-B-viii**

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II-B-ix

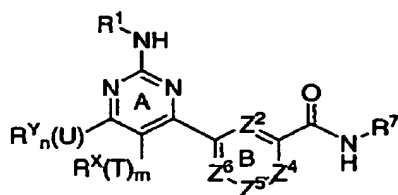
II-B-xii



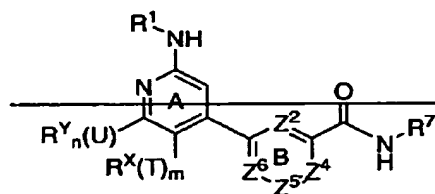
II-B-xiv

33. (Canceled)

34. (Currently amended) The compound of claim 1, wherein Z^3 or Z^5 is CR^3 or CR^5 , respectively, and R^3 or R^5 is $C(O)N(R)(R^7)$, wherein R^7 is $(CH_2)_t-Y-R^8$, wherein t is 0, 1 or 2, wherein Y is a bond or is O, S, NR^9 , $-OCH_2-$, $-SCH_2-$, $-NR^9CH_2-$, $O(CH_2)_2-$, $-S(CH_2)_2-$, or $-NR^9(CH_2)_2-$, and wherein R^8 is Ar^2 , or R^8 and R^9 , taken together with the nitrogen atom, form a 5-8 membered heterocyclyl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen or sulfur and compounds have formula one of formulas II-C or III-C:



II-C

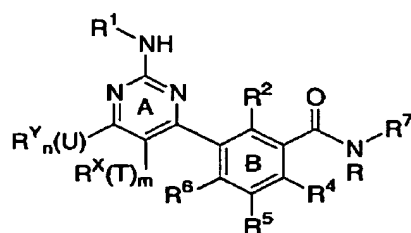


III-C

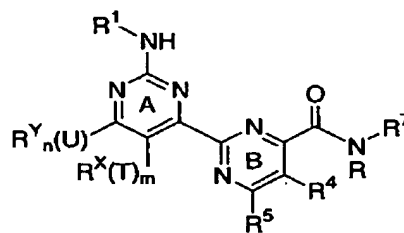
35. (Currently amended) The compound of claim 34, wherein ~~for compounds of formula II-C~~, ring B is selected from i, ii, iii, iv, v, vii, viii, ix, x, xi, xii, or xiii and

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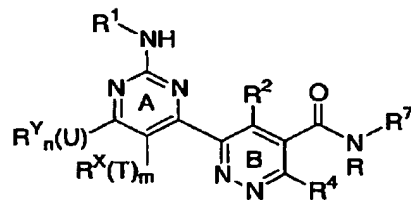
compounds have one of formulas II-C-i, II-C-ii, II-C-iii, II-C-iv, II-C-v, II-C-vii, II-C-viii, II-C-ix, II-C-x, II-C-xi, II-C-xii, or II-C-xiii:



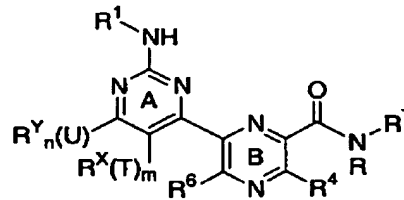
II-C-i



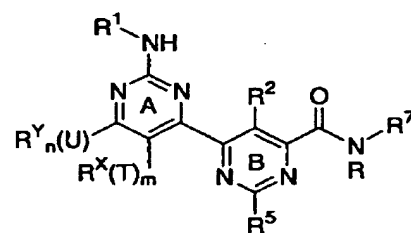
II-C-ii



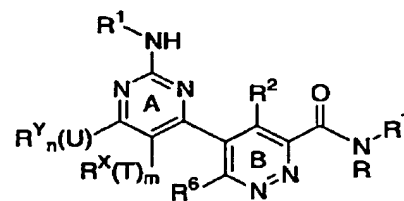
II-C-iii



II-C-iv

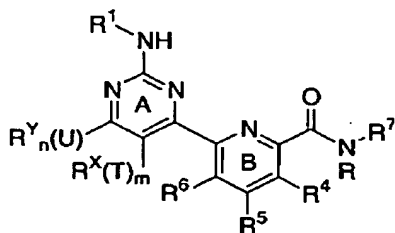


II-C-v

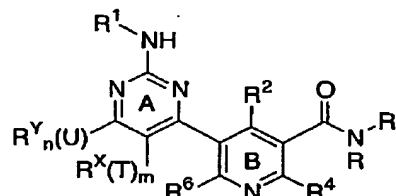


II-C-vii

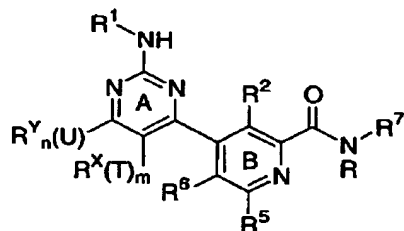
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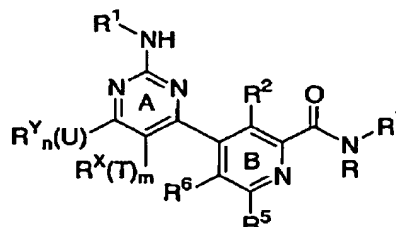
II-C-viii



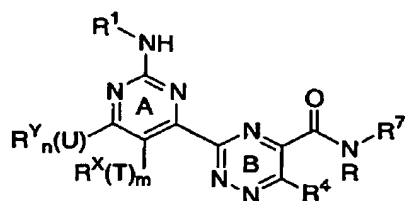
II-C-ix



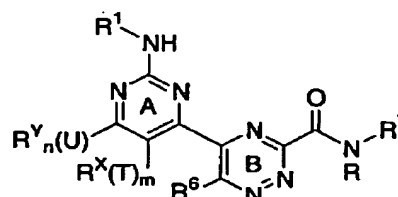
II-C-x



II-C-xi



II-C-xii



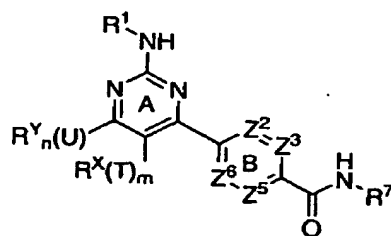
II-C-xiii

36. (Canceled)

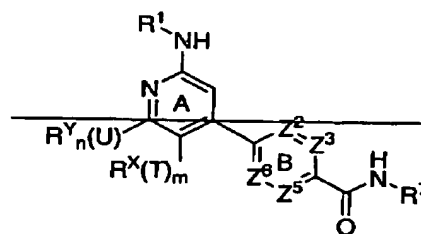
37. (Currently amended) The compound of claim 1, wherein Z^4 is CR^4 , and R^4 is $C(O)N(R)(R^7)$, wherein R^7 is $(CH_2)_t-Y-R^8$, wherein t is 0, 1 or 2, wherein Y is a bond or is O, S, NR^9 , $-OCH_2-$, $-SCH_2-$, $-NR^9CH_2$, $O(CH_2)_2-$, $-S(CH_2)_2$, or $-NR^9(CH_2)_2$, and wherein R^8 is Ar^2 , or R^8 and R^9 , taken together with the nitrogen atom, form a 5-8

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membered heterocyclyl or heteroaryl ring having 1-3 heteroatoms independently selected from nitrogen, oxygen or sulfur and compounds have formula one of ~~formulas II-D or III-D~~:

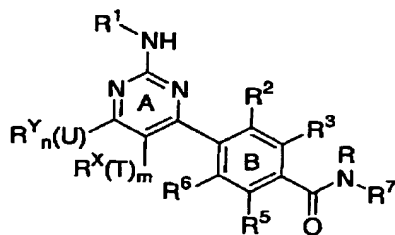


II-D

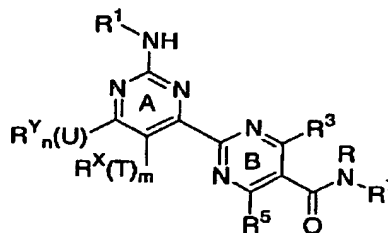


III-D

38. (Currently amended) The compound of claim 37, wherein ~~for compounds of formula II-D~~, ring B is selected from i, ii, iii, iv, vi, viii, ix, xii, or xiv and compounds have one of formulas II-D-i, II-D-ii, II-D-iii, II-D-iv, II-D-vi, II-D-viii, II-D-ix, II-D-xii, or II-D-xiv:

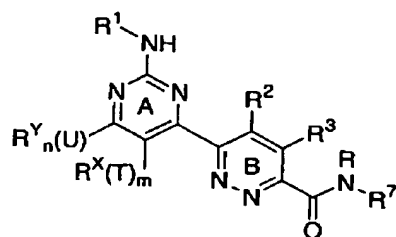


II-D-i

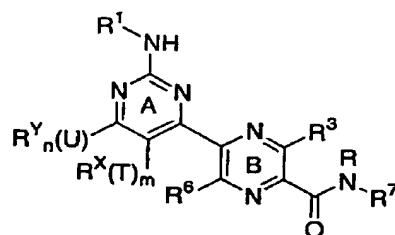


II-D-ii

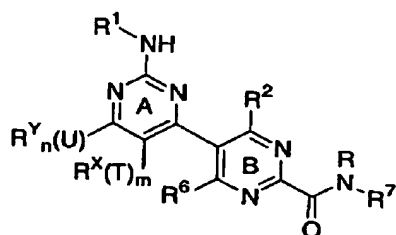
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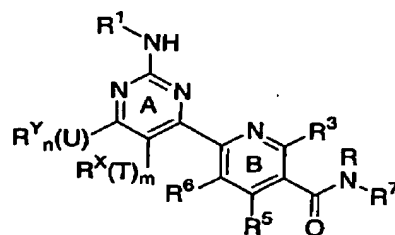
II-D-iii



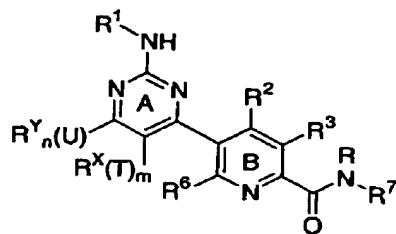
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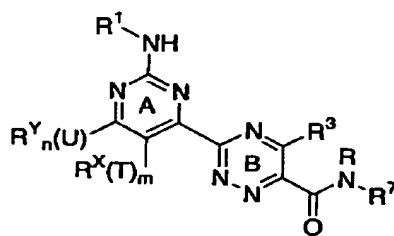
II-D-vi



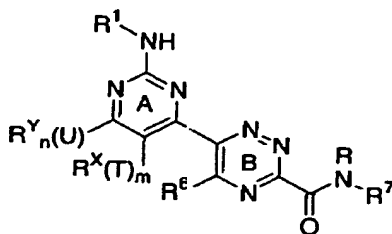
II-D-viii



II-D-ix



II-D-xii

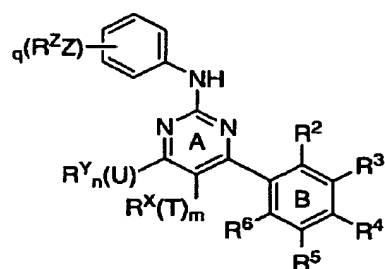


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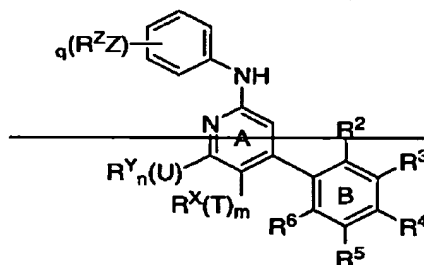
II-D-xiv

39. (Canceled)

40. (Currently amended) The compound of claim 1, where R^1 is optionally substituted phenyl and ring B is an optionally substituted phenyl group and compounds have the general formula ~~formulas~~ IV or V:

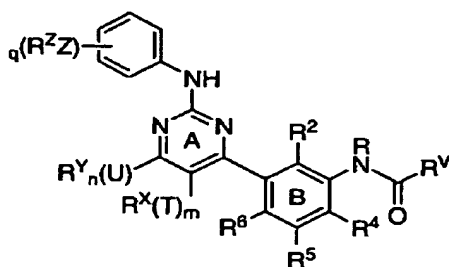


IV

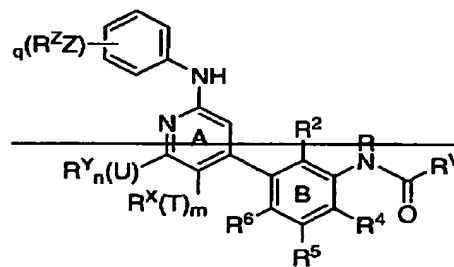


V

41. (Currently amended) The compound of claim 40, wherein, R^3 is NRCOR^7 and compounds have the general formula ~~formulas~~ IV-A-(i) or V-A-(i):



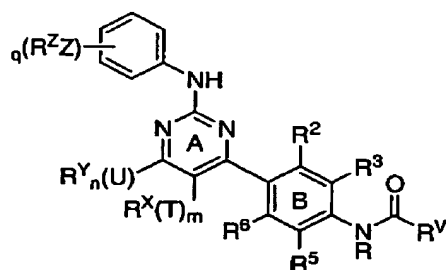
IV-A-(i)



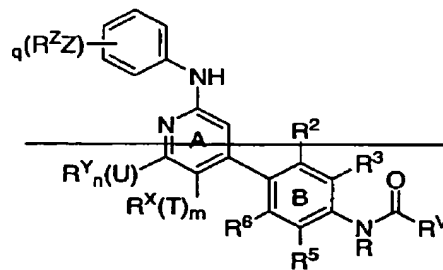
V-A-(i)

42. (Currently amended) The compound of claim 40, wherein R^4 is NRCOR^7 and compounds have the general formula ~~formulas~~ IV-B-(i) or V-B-(i):

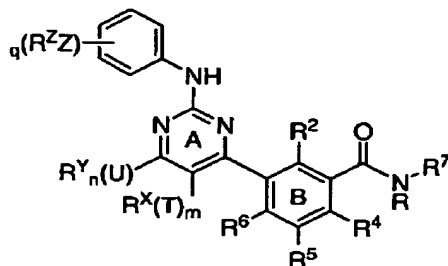
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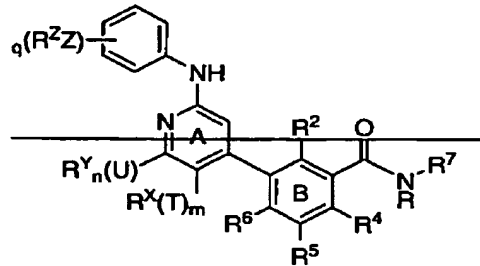
IV-B-(i)

~~V-B-(i)~~

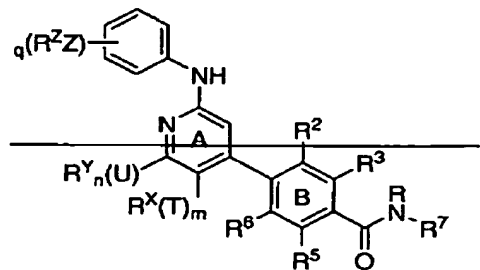
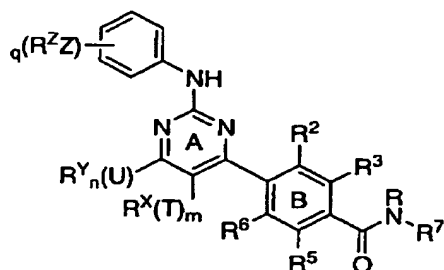
43. (Currently amended) The compound of claim 40, wherein R³ is CONRR⁷ and compounds have the general formula ~~formulas~~ IV-C-(i) or V-C-(i):



IV-C-(i)

~~V-C-(i)~~

44. (Currently amended) The compound of claim 40, wherein R⁴ is CONRR⁷ and compounds have the general formula ~~formulas~~ IV-D-(i) or VII-D-(i):

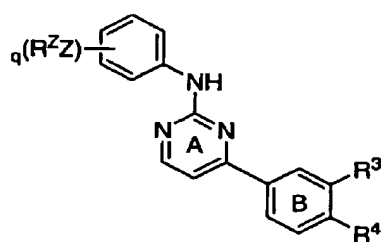


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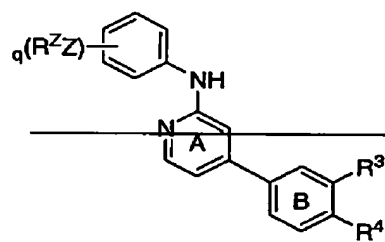
IV-D-(i)

~~V-D-(i)~~

45. (Currently amended) The compound of claim 40, wherein R^1 is optionally substituted phenyl, ring A is pyrimidinyl or ~~pyridyl~~, ring B is phenyl, and R^2 , R^5 , and R^6 are each hydrogen, and compounds have the general formulae VI and VII:



VI

~~VII~~

46. (Currently amended) The compound of claim 40 or 45, wherein
 q is 0 or 1 and ZR^Z is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-SO_2NH_2$;
 [[b.]] (b) R^3 is $NRCOR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0, Y is a bond, and R^8 is phenyl (a), or is an optionally substituted heteroaryl moiety selected from one of groups b through r, and wherein r is 0 or 1, and WR^W substituents are halogen, C_{1-4} alkyl, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^4 is hydrogen.
47. (Currently amended) The compound of claim 40 or 45, wherein:
 [[a.]] (a) q is 0 or 1 and ZR^Z is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-SO_2NH_2$;
 [[b.]] (b) R^3 is $CONRR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0, Y is a bond, and R^8 is phenyl (a) or is an optionally substituted heteroaryl moiety selected from one of groups b through r, and wherein r is 0 or 1, and WR^W substituents are halogen, C_{1-4} alkyl, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^4 is hydrogen.

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48. (Currently amended) The compound of claim 40 or 45, wherein:
 [[a.]] (a) q is 0 or 1 and ZR^2 is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-S(O)_2NH_2$;
 [[b.]] (b) R^4 is $NRCOR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0, Y is a bond, and R^8 is phenyl (a) or an optionally substituted heteroaryl moiety selected from one of groups b through z , and wherein r is 0 or 1, and WR^w substituents are halogen, C_{1-4} alkyl, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^3 is hydrogen.
49. (Currently amended) The compound of claim 40 or 45, wherein:
 [[a.]] (a) q is 0 or 1 and ZR^2 is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-S(O)_2NH_2$;
 [[b.]] (b) R^4 is $CONRR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0, Y is a bond, and R^8 is phenyl (a) or an optionally substituted heteroaryl moiety selected from one of groups b through z , and wherein r is 0 or 1, and WR^w substituents are halogen, C_{1-4} alkyl, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^3 is hydrogen.
50. (Currently amended) The compound of claim 40 or 45, wherein:
 [[a.]] (a) q is 0 or 1 and ZR^2 is $-NH_2$, $-OH$, C_{1-4} alkoxy, or $-S(O)_2NH_2$;
 [[b.]] (b) R^3 is $NRCOR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0 or 1, Y is NR^9 , and R^8 and R^9 , taken together with the nitrogen atom, form a group selected from s , t , u , or v , and wherein r is 0 or 1, and WR^w substituents are halogen, C_{1-4} alkyl, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^4 is hydrogen.
51. (Currently amended) The compound of claim 40 or 45, wherein:

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[[a.]] (a) q is 0 or 1 and ZR^Z is $-NH_2$, $-OH$, $C_{1-4}alkoxy$, or $-S(O)_2NH_2$;
 [[b.]] (b) R^3 is $CONRR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0 or 1, Y is NR^9 , and R^8 and R^9 , taken together with the nitrogen atom, form a group selected from s , t , u , or v , and wherein r is 0 or 1, and WR^W substituents are halogen, $C_{1-4}alkyl$, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^4 is hydrogen.

52. (Currently amended) The compound of claim 40 or 45, wherein:

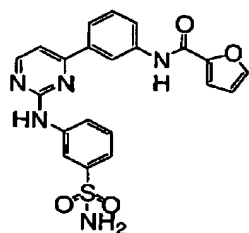
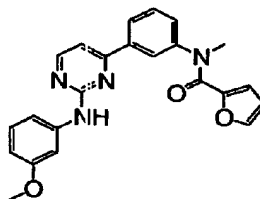
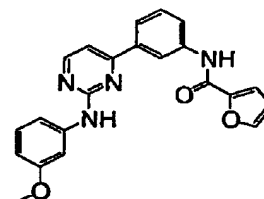
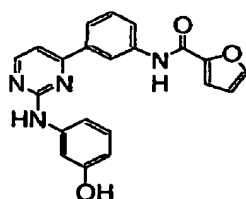
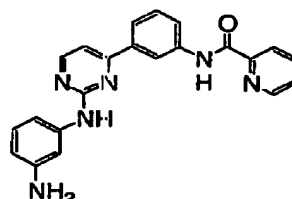
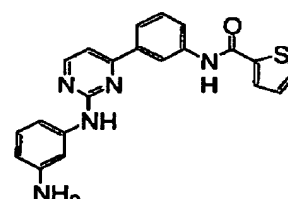
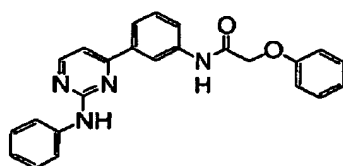
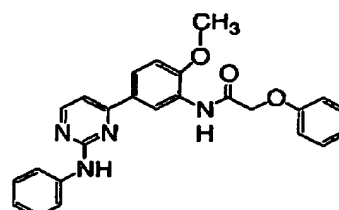
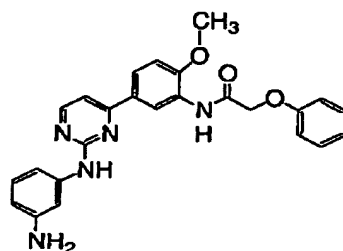
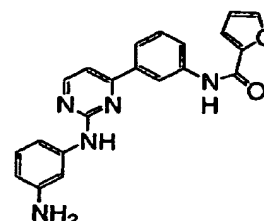
[[a.]] (a) q is 0 or 1 and ZR^Z is $-NH_2$, $-OH$, $C_{1-4}alkoxy$, or $-S(O)_2NH_2$;
 [[b.]] (b) R^4 is $NRCOR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0 or 1, Y is NR^9 , and R^8 and R^9 , taken together with the nitrogen atom, form a group selected from s , t , u , or v , and wherein r is 0 or 1, and WR^W substituents include halogen, $C_{1-4}alkyl$, NH_2 , OH , SH , SO_2NH_2 , $C_{1-4}alkoxy$, $C_{1-4}thioalkyl$, CH_2OR , $CH_2N(R)_2$, or CH_2SR ; and
 [[c.]] (c) R^3 is hydrogen.

53. (Currently amended) The compound of claim 40 or 45, wherein:

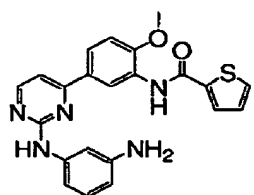
[[a.]] (a) q is 0 or 1 and ZR^Z is $-NH_2$, $-OH$, $C_{1-4}alkoxy$, or $-S(O)_2NH_2$;
 [[b.]] (b) R^4 is $CONRR^7$, wherein R^7 is $(CH_2)_t-Y-R^8$, and t is 0 or 1, Y is NR^9 , and R^8 and R^9 , taken together with the nitrogen atom, form a group selected from s , t , u , or v , and wherein r is 0 or 1, and WR^W substituents are halogen, $C_{1-4}alkyl$, $-(R)_2$, $-OR$, $-SR$, $-SO_2N(R)_2$, $-N(R)SO_2R$, $-N(R)COR$, $-N(R)_2$, $-CH_2OR$, $-CH_2N(R)_2$, or $-CH_2SR$; and
 [[c.]] (c) R^3 is hydrogen.

54. (Currently amended) The compound of claim 1, having one of the following structures:

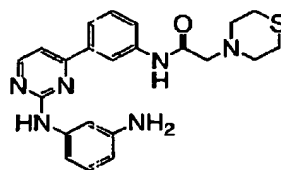
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**IV-A(i)-1****IV-A(i)-2****IV-A(i)-3****IV-A(i)-4****IV-A(i)-5****IV-A(i)-6****IV-A(i)-7****IV-A(i)-8****IV-A(i)-9****IV-A(i)-10**

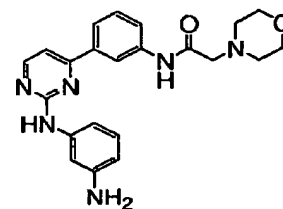
Applicants: Mark Ledebor et al.
Application No.: 10/700,333



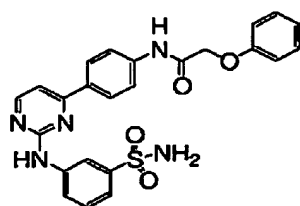
IV-A(i)-11



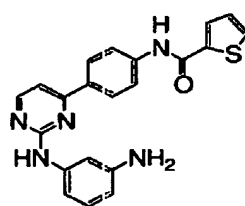
IV-A(i)-12



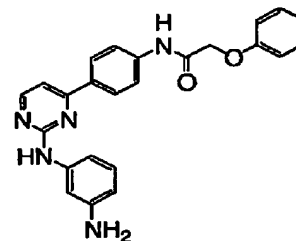
IV-A(i)-13



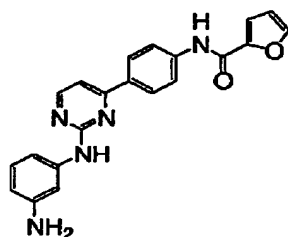
IV-B(i)-1



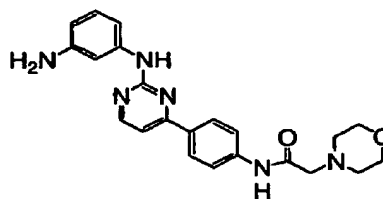
IV-B(i)-2



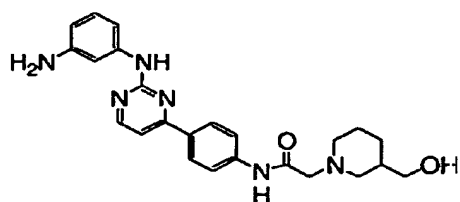
IV-B(i)-3



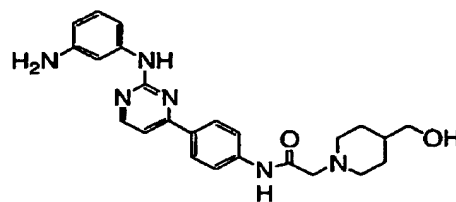
IV-B(i)-4



IV-B(i)-5

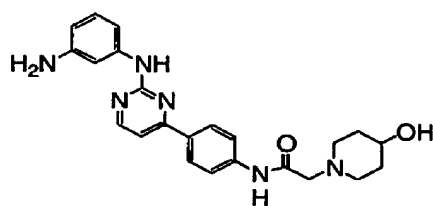
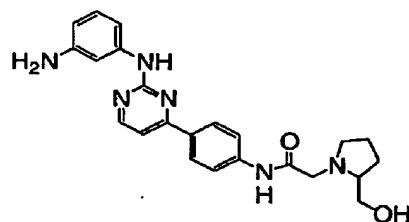
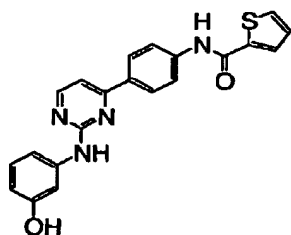
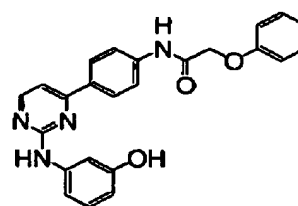
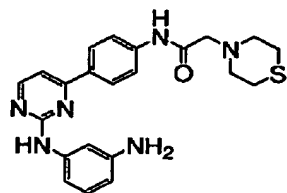
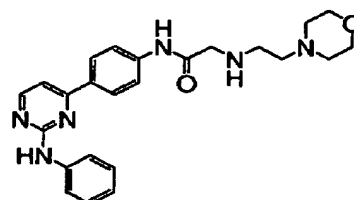


IV-B(i)-6

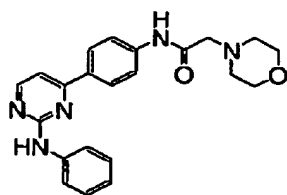


IV-B(i)-7

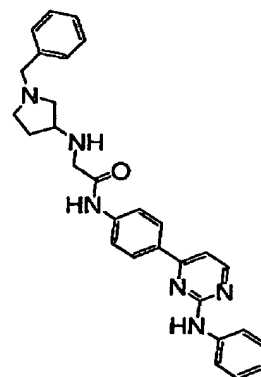
Applicants: Mark Ledeboer et al.
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**IV-B(i)-8****IV-B(i)-9****IV-B(i)-10****IV-B(i)-11****IV-B(i)-12****IV-B(i)-13**

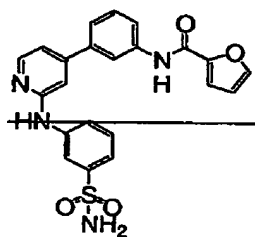
Applicants: Mark Ledebner et al.
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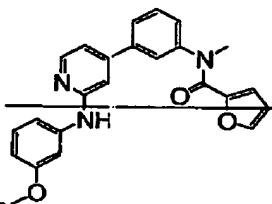
IV-B(i)-14



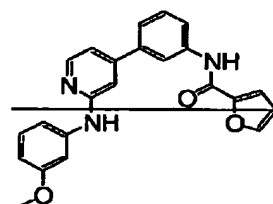
IV-B(i)-15



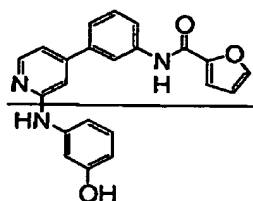
V-A(i)-1



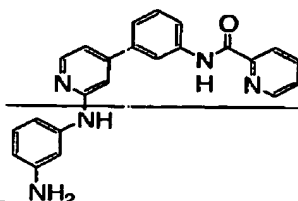
V-A(i)-2



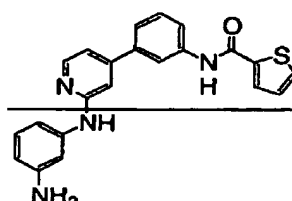
V-A(i)-3



V-A(i)-4

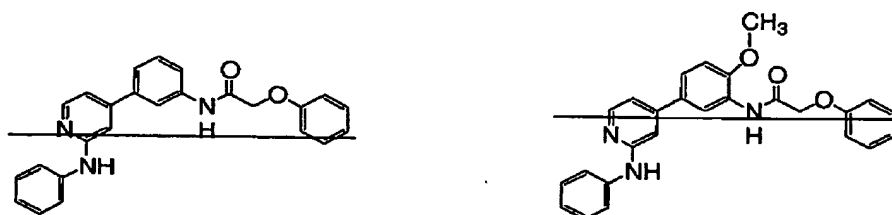


V-A(i)-5



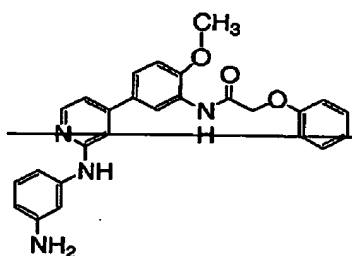
V-A(i)-6

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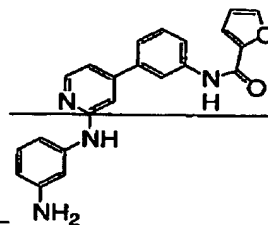


V-A(i)-7

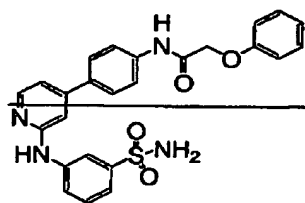
V-A(i)-8



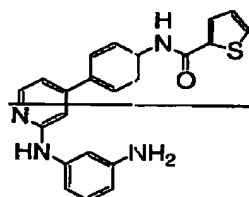
V-A(i)-9



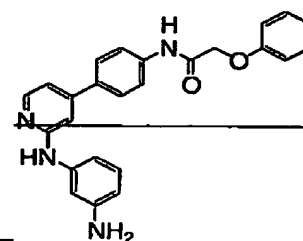
V-A(i)-10



V-B(i)-1

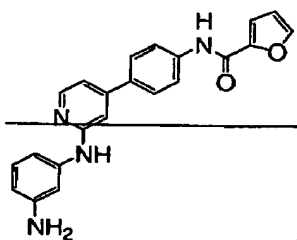


V-B(i)-2

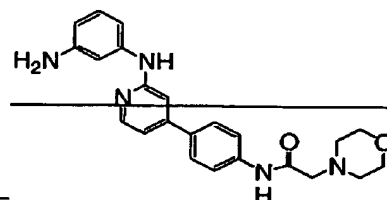


V-B(i)-3

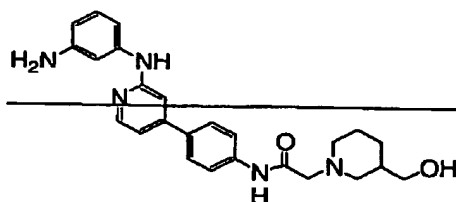
Applicants: Mark Ledebor et al.
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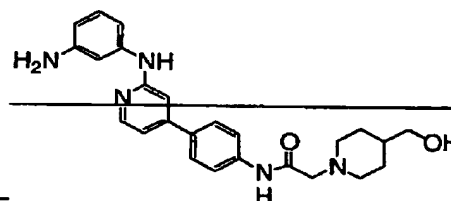
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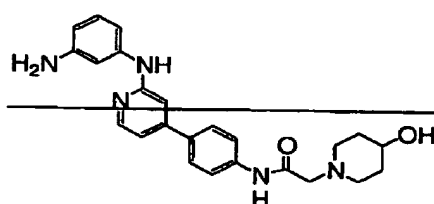
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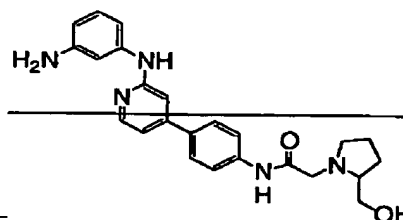
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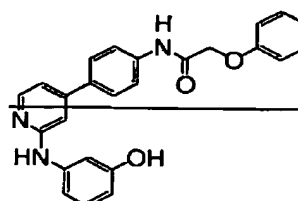
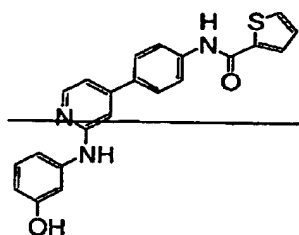
~~V-B(i)-7~~



~~V-B(i)-8~~

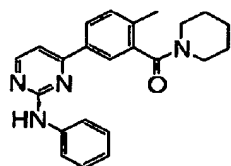


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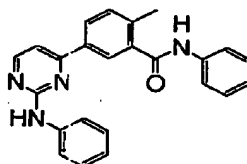


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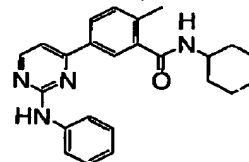
~~V-B(i)-10~~ ————— ~~V-B(i)-11~~



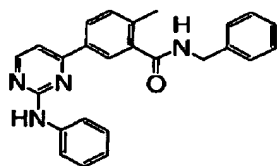
IV-C(i)-1



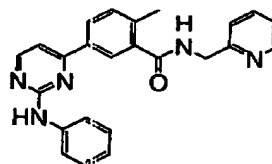
IV-C(i)-2



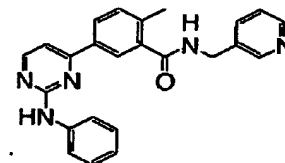
IV-C(i)-3



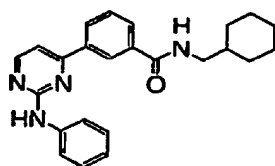
IV-C(i)-4



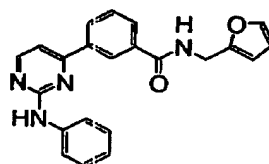
IV-C(i)-5



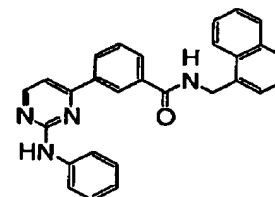
IV-C(i)-6



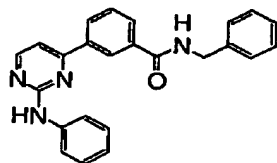
IV-C(i)-7



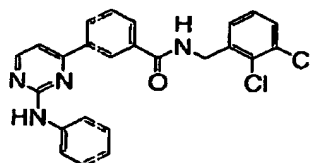
IV-C(i)-8



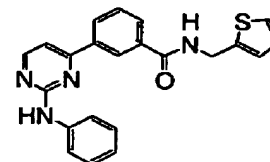
IV-C(i)-9



IV-C(i)-10

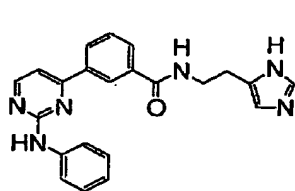


IV-C(i)-11

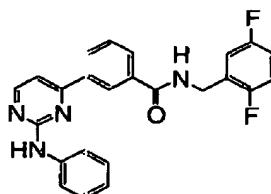


IV-C(i)-12

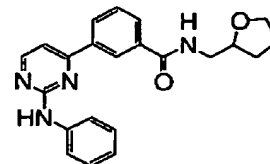
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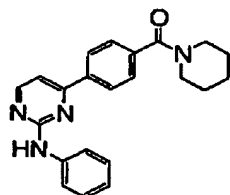
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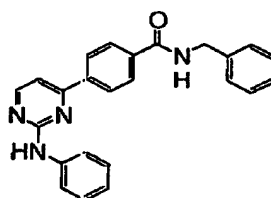
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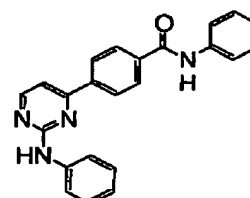
IV-C(i)-15



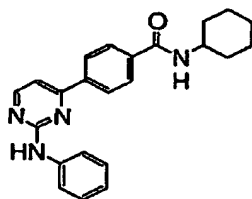
IV-D(i)-1



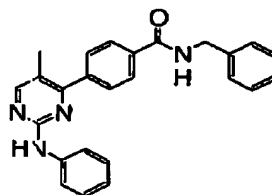
IV-D(i)-2



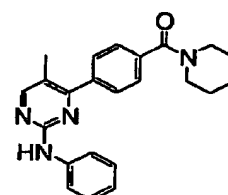
IV-D(i)-3



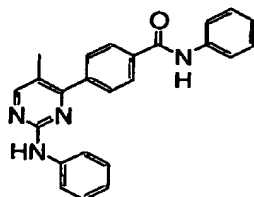
IV-D(i)-4



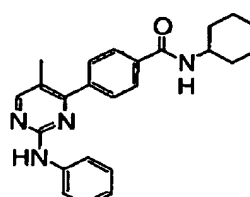
IV-D(i)-5



IV-D(i)-6

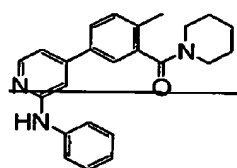


IV-D(i)-7

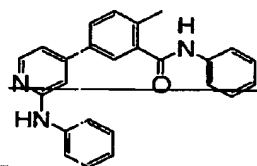


IV-D(i)-8

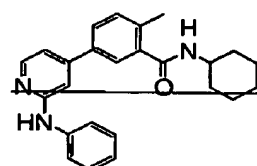
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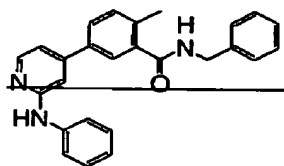
V-C(i)-1



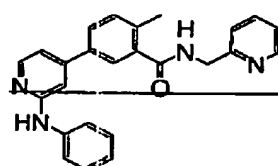
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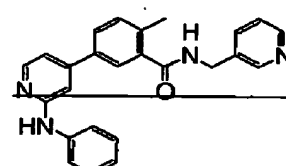
V-C(i)-3



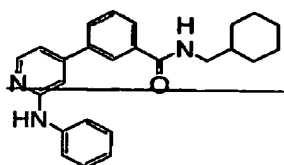
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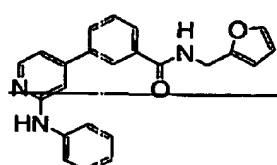
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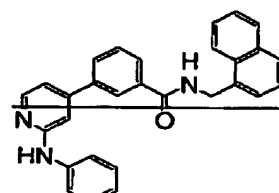
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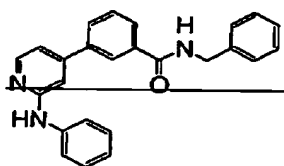
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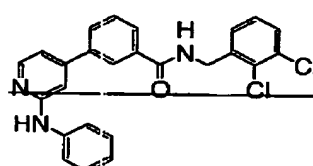
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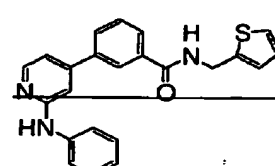
V-C(i)-9



V-C(i)-10

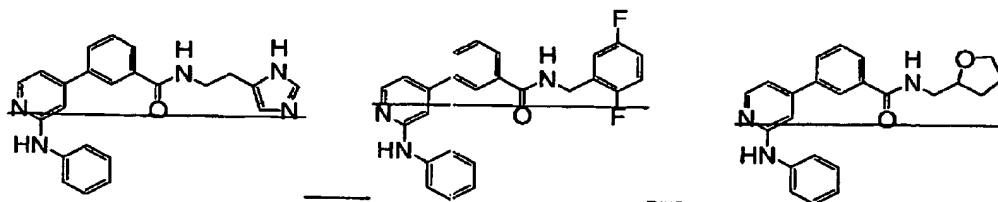


V-C(i)-11



V-C(i)-12

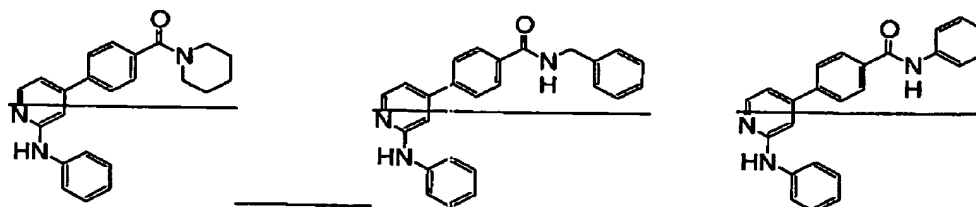
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V-C(i)-13

V-C(i)-14

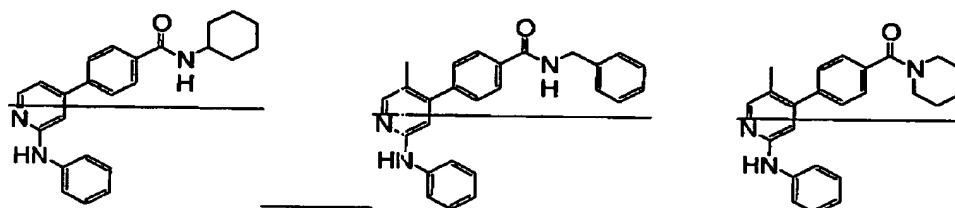
V-C(i)-15



V-D(i)-1

V-D(i)-2

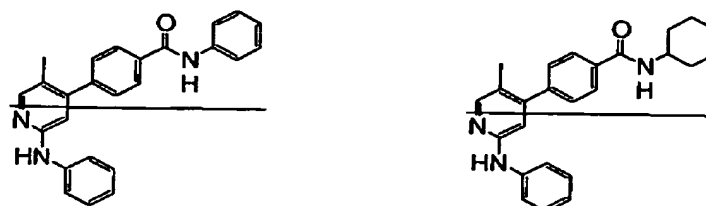
V-D(i)-3



V-D(i)-4

V-D(i)-5

V-D(i)-6



V-D(i)-7

V-D(i)-8

Applicants: Mark Ledéboer et al.
Application No.: 10/700,333

55. (Original) A pharmaceutical composition comprising a compound according to claim 1, and a pharmaceutically acceptable carrier, adjuvant, or vehicle.

56. (Original) The composition of claim 55, further comprising an additional therapeutic agent selected from a chemotherapeutic or anti-proliferative agent, a treatment for Alzheimer's Disease, a treatment for Parkinson's Disease, an agent for treating Multiple Sclerosis (MS), a treatment for asthma, an agent for treating schizophrenia, an anti-inflammatory agent, an immunomodulatory or immunosuppressive agent, a neurotrophic factor, an agent for treating cardiovascular disease, an agent for treating destructive bone disorders, an agent for treating liver disease, an agent for treating a blood disorder, or an agent for treating an immunodeficiency disorder.

57. (Original) A method of inhibiting JAK kinase activity in a biological sample or a patient, comprising the step of contacting said biological sample or patient with:

- a) the composition of claim 55; or
- b) the compound of claim 1.

58. (Original) A method of treating or lessening the severity of a disease or disorder selected from an immune response, an autoimmune disease, a neurodegenerative disorder, or a solid or hematologic malignancy comprising administering to a patient in need thereof a compound of claim 1 or a composition of claim 55.

59. (Original) The method of claim 58, wherein the disease is an allergic or type I hypersensitivity reaction, asthma, transplant rejection, graft versus host disease, rheumatoid arthritis, amyotrophic lateral sclerosis, multiple sclerosis, Familial amyotrophic lateral sclerosis (FALS), leukemia, or lymphoma.